was in many years almost constant, unlike the number of legitimate births in relation to that of married women, which has been falling considerably since about 1885.

Leaving this most important question of differential fertility as only incidentally touching my subject, I must still add a few about positive or constructive eugenics in Denmark. The Danish people belongs, practically, to the same race or races as the British. Both of them are in fact ethnic, as well as political, units, but composed of various racial elements, different in mental and physical characters. We do not in Denmark share the opinion of those philosophers who look upon the socalled Nordic race as the best of all, and dream of making a pure breed of it. The pure Nordic type is certainly strong and healthy, but in no way more or less resistant to disease than other European races. if not transferred to foreign surroundings. We do not indulge in any hope of strengthening the people through selective racial mating; but we try to do it by the best mental and physical education possible and by improving the general hygienic conditions of the children.

NO TRUE EUGENIC MOVEMENT

To summarize, eugenics in Denmark, as elsewhere, cannot be separated from general public hygiene, or from the whole social policy, as something new and wonderful. We care, as in other civilized countries, for the sick and weak in the best way we know, we try to prevent what can be prevented, to cure what can be cured, and to help those who must carry their load to the end. But

we have, to tell the truth, no eugenic movement. We do it for the sick and weak themselves, in the belief that it is the best way to improve the qualities of future generations, whom we leave to maintain the rather high standard of the population. We do not believe that it is as yet within the limits of possibility to stamp out all these ailments, nor to create a human, or even a Danish, race entirely free from them. Nor do we believe in a deterioration of the race because we care for the sick and weak.

When this fallacious idea came up some forty years ago, nobody dreamed that the enormous progress of medical science would check in our own day the expected result of allowing the propagation of unsound people. Nobody doubted the heredity of tuberculosis and syphilis nor the mental or physical degeneracy in certain families. Nowadays we know, at all events, something more, and we are aware that future generations will know much more of the agencies under social control that may improve or impair them, in their turn. But they will have to work under other conditions than we do.

It is as yet impossible to see in what way and how far birth control will be able still more to improve future generations, and we can only hope they will find ways and means to check the unavoidable social effects of a majority of old people unable to keep up the struggle for life. It is, however, our ineluctable duty to prepare the future generations for this hard task by making an unbiased scientific study of all the possibilities of a real betterment of the race, and to put the results into practice for the benefit of the present population and, if possible, of posterity.

III.—IN BRAZIL, by DR. RENATO KEHL

NEW scientific association has been organized in Rio de Janeiro with the aim of developing the study and diffusion of eugenics in Brazil.

As is well known, eugenics counts an appreciable number of proselytes among us,

some of whom have tried perseveringly to spread eugenic measures to better the progress of our nation. A permanent scientific organization, however, was needed, which would become a nucleus of Brazilian eugenics and at the same time be a centre for diffusing ideals and practical instructions, such as exist in all civilized countries.

For this reason a Brazilian Central Committee of Eugenics has been founded in this Capital, set up in a way which guarantees a lasting and fruitful existence. It will have a limited number of effective members, only ten, whose purpose is: (a) To interest the nation in the study of heredity and eugenics; (b) to propagate the ideal of the physical, psychological, and moral regeneration of man; and (c) to endorse or even help scientific or humanitarian works of a eugenic character.

The Brazilian Central Committee of Eugenics, which will opportunely be incorporated in the International Federation of Eugenic Organizations, will not only itself initiate the study and propaganda of questions of a eugenic character, but will also collaborate with any government project with a bearing, direct or indirect, upon eugenics, such as those referring to immigration, population, sex education, modern regulations for pre-marital certificates, the foundation of institutes or laboratories for Galtonian studies.

The following are the founders and members of the Brazilian Central Committee of Eugenics*: Dr. Renato Kehl, President; Effective Members: Dr. Belisario Penna, Dr. Gustavo Lessa, Dr. Ernani Lopes, Professor Porto Carrero, Dr. Cunha Lopes, Professor S. Toledo Piza, Jr., Professor Octavio Domingues, Dr. Achiles Lisbõa, and Phco. Caetano Coutinho.

Altogether the eugenic movement in Brazil, which may be said to have been started by the First International Eugenics Congress (London, 1912), has made great strides of recent years. The first definite move was a Eugenics Conference in April 1917, which was followed in January 1918 by the founding of the Sao Paulo Society of Eugenics, under the patronage of Professor Arnaldo Vieira de Carvalho, then director of the Faculty of Medicine in that town. It was the first association of its kind in South

America, and a great many physicians of Sao Paulo and other cities of this State were present at the inauguration. It aroused interest not only in Brazil, but also in all Latin America and Europe.

In 1917 we published the pamphlet Eugenia, and in 1919 the Annals of Eugenics, a large volume in which were collected the speeches, conferences, and works of the Sao Paulo Eugenics Society, and also several memoirs, some books (Eugenia e Medicina Social, A Cura da Fealdade and Licões de Eugenia) and numerous articles on the same subject published in national and foreign magazines.

The First Brazilian Congress of Eugenics in commemoration of the centenary of the Rio National Academy of Medicine, was held in August 1929 (President, Roquette Pinto; General Secretary, Renato Kehl). At this Congress about 200 members were present, and many papers were presented, which will be published in three volumes. The first volume has been already distributed, containing 342 pages. (The distribution of this work was undertaken by the Academia Nacional de Medicina, Rua Augusto Severo, Rio de Janeiro.)

In 1927 and 1928 two eugenic competitions took place in Sao Paulo, and a detailed account appeared in the *Boletim de Eugenia* (No. 5, May 1929).

The Boletim de Eugenia, the only Brazilian periodical of its kind, was founded in January 1929, edited by the present writer, and has now published twenty-seven editions, copies of which are widely and freely distributed in Brazil and sent to eugenists of various foreign countries.

Recently the movement has been promising, and the eugenic competition will be repeated in Sao Paulo this year and will be organized by the Public Health Service, under the direction of Dr. Waldomiro de Oliveira.

In Piracicaba, which is one of the most important towns of the State of Sao Paulo, Professor Domingues will hold a long conference on eugenics for an audience consisting mostly of students at the numerous high schools of that city, such as the School of

^{*} All correspondence to the Commission to be addressed to Dr. Renato Kehl, Caixa Postal 2926, Rio de Janeiro.

Agriculture, the School of Chemistry, of Odontology, the Normal School, etc. Rio de Janeiro Fernando de Magalhães, president of Academia Brazileira de Letras, has started a weekly course in eugenics at the Escola de Bellas Artes and in Recife, at the Fifth Congress of Hygiene (October

17th to 22nd), were discussed some of the topics of Galton's science. The necessity for a law providing for a medical premarital examination was proclaimed, as the basis of a Galtonian campaign, and a wish was expressed to create a Brazilian Society of Anthropology and Eugenics.

THE LITERATURE REVIEWED BY K. E. TROUNSON

Besides the foregoing account by himself, Dr. Kehl has sent an assortment of literature which illustrates the general attitude towards eugenics in Brazil. Apparently the Brazilians interpret the word less strictly than we do, and make it cover a good deal of what we should call hygiene and elementary sexuology; and no very clear distinction is drawn between congenital conditions due to pre-natal injury and diseases which are strictly genetic.

Friction in the family, sex education, and pre-marital examinations and certificates seem to be the subjects of most interest to Brazilian eugenists, whereas genetics and natural and social selection are rather neglected; the outlook is more sociological than biological.

One of the most interesting publications is Dr. Kehl's own Livro do Chefe de Familia (Book for the Head of Family). It contains questionnaires, advice, and charts with which the patriarchal chief of every family is asked to conform and to hand on at his demise to his successor. If the Brazilian father could be persuaded faithfully to do as is requested, doubtless a brilliant future would be secured in time to the Brazilian race. At least the book will awaken interest and possibly thoughts in the minds of the public which may ultimately lead to action.

If this should be the case, none of the great care and thought expended on this book by the enthusiastic author will have been lost. He has also published Lessons in Eugenics, a little book which is written in simple language for the general public. The scheme followed in the thirteen lessons is concise and systematic. The facts regarding degeneration of race and the phenomena of heredity generally are excellently set out. It is also so attractively written that it will certainly be a helpful urge towards further study.

The first volume of the *Proceedings* of the First Brazilian Congress on Eugenics has just been published, in which appears only a part of the huge contributions presented by members of the Congress. It is a quarto volume with 340 pages of text.

The remaining contributions will be published in two new volumes still to appear, according to the intention of the President of the Congress, Professor Roquette Pinto, Director of the National Museum, who has been entrusted with the publication of this valuable national contribution to eugenics.

The following extracts, taken from the report of the Institute of Commercial Expansion, are given in the August 1930 Boletim de Eugenia. They give a very definite reason in defence of the fight which is being put up by the eugenists of Brazil, for they ask of what value is quantity without quality?

The population of Brazil was calculated on January 1st, 1930, at 40,272,650 inhabitants. Brazil in population is the tenth country in the world. There are only three with more than 100 millions, China, India, and the United States; five with more than 50 millions, the three already mentioned and Germany and Japan; and only nine with more than 30 millions, the above and England, France, Italy, and Brazil.

Thus Brazil finds itself among the nine most highly populated countries in the world, occupying the second place after the United States.

PROBABLE	POPULATION	OF	Brazil.
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1930	•••	41,000,000
1940	•••	51,000,000
1950	•••	76,000,000
1960	• • •	120,000,000
1990		240,000,000

Thus it is inferred in the short period of sixty years Brazil will have a probable population of 240,000,000, double that of the United States.

In the table following is given the progressive increase of the population of Brazil. The figures are taken from the same source

—the report issued by the Institute of Commercial Expansion.

1776	• • •	•••	1,900,000
1808	•••	•••	2,419,490
1819		•••	4,396,132
1830	•••	•••	5,340,000
1854		•••	7,677,800
1872	•••	•••	10,112,060
1890	•••	•••	14,333,919
1900	•••	• • •	17,318,550
1910	•••	•••	23,414,170
1920	•••		30,635,600
1925		•••	36,870,972
1929		•••	39,103,856
1930		•••	40,272,650



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Physiological Zoology was established by the Department of Zoology at the University of Chicago in January, 1928, to fill the need of biologists for authentic, current data of zoological investigation. The journal, which has completed its third year of publication, has become firmly established as an indispensable part of laboratory and library equipment for zoologists in American and foreign colleges; to laymen interested in the progress of the science it has become no less a valuable periodical.

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